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June 27, 1997

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VIA MESSENGER

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JUN 27 1997
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

William F. Caton
Acting Secretary
Federal Communications Commission
Room 200
1919 M Street, N.W.
Washington, DC 20554

Re: Notice of Ex Parte Communication
CC Docket No. 94-102

Dear Mr. Caton:

On March 26, 1997, representatives of SnapTrack, Inc. met with Michael J. Marcus, Associate Chief, Office of Engineering and Technology. Representing Snaptrack, Inc. at the meeting were Steve Poizner, President, Ellen Monheimer, Vice President - Marketing and Business Development, Glenn Manishin, and Michael Specht of this law firm.

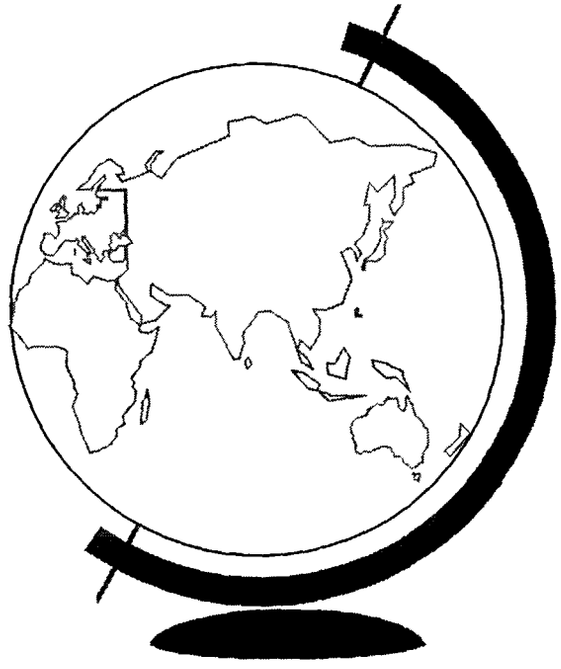
Addressed at the meeting were issues raised in the pending petitions for reconsideration and the Further Notice of Proposed Rulemaking in the captioned proceeding and summarized in the attachment. Pursuant to section 1.1206(a)(2) of the Commission's Rules, enclosed are two copies of the document distributed at the meeting. Should you have any questions regarding this matter, please call me.

Respectfully submitted,

Kenneth R. Boley

Enclosures
cc: Michael J. Marcus

2 Originals



SnapTrack™, Inc.

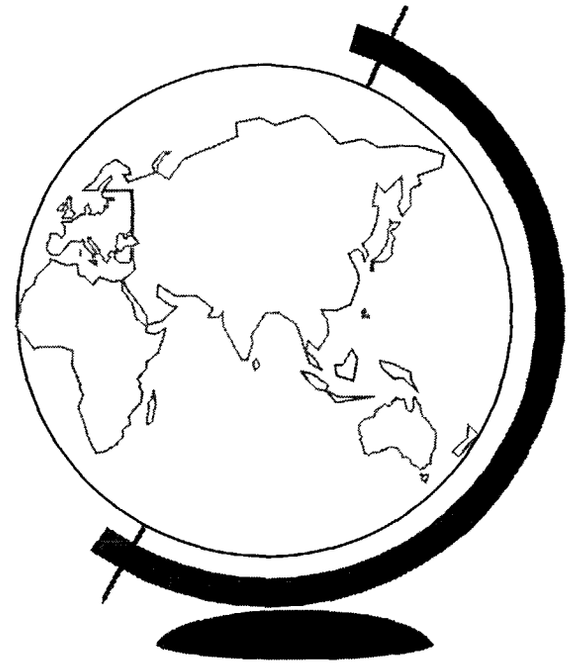
Presentation to the FCC
June 26, 1997

Summary

- Phase II requirements can be met economically with technology available now
- Current industry interpretation of 94-102 is not technologically neutral
- Public will be well-served by clarifying but keeping the mandate's current accuracy requirements
- Timely FCC action will enhance public safety and provide competitive incentives

Company Background

- Founded 9/95 to integrate GPS, 2-way wireless, and GIS into high volume/low cost systems used for locating and tracking where signals are obstructed, low power consumption is critical, or extremely rapid time to first fix is required
- Experienced management team, including CMRS and telephony



TECHNOLOGY OVERVIEW

Conventional GPS Limitations

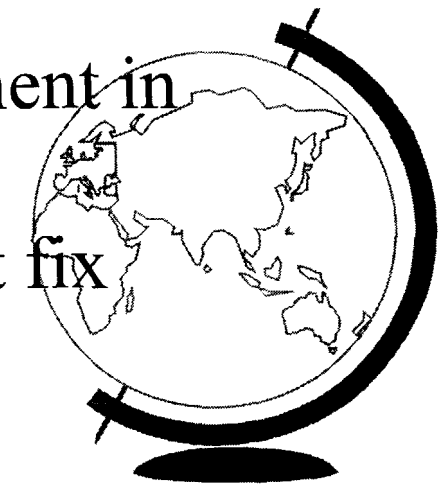
- Require minimally obstructed view of sky
  - acquisition particularly difficult
- Relatively long acquisition time
  - >30 seconds to read satellite data
  - serial code and frequency search
    - very long times for high sensitivity
- Significant power consumption
  - tracking causes continuous power drain
- Operation difficult with multipath and interference
  - Correlators are sensitive to these perturbations

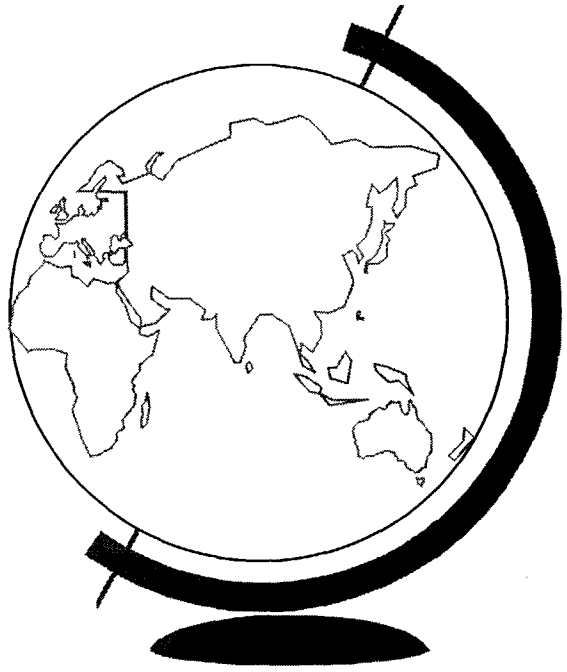
SnapTrack™ Approach

Combine GPS receiving capability with a cell-based wireless communications network

Result: an ultra-low cost way to track the precise location of a 2-way communication device without changing the GPS or communication network infrastructure

Relative Performance: massive improvement in GPS receiver sensitivity, power consumption, cost, and time to first fix





The SnapTrack Architecture

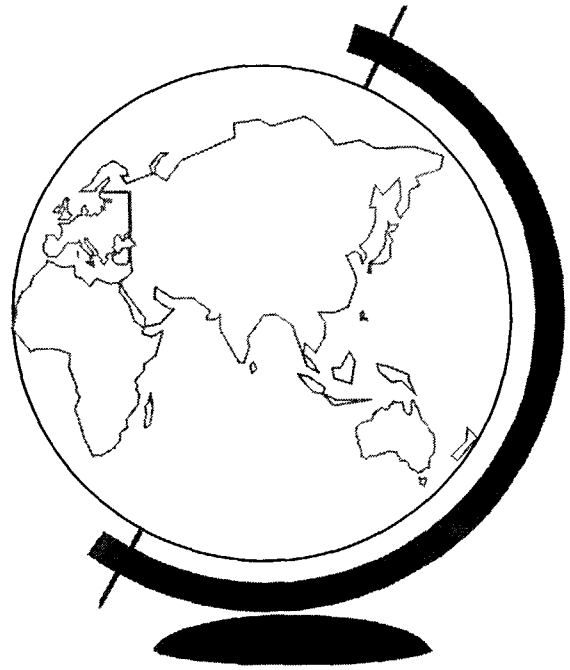
Performance v. Conventional GPS

- Improved sensitivity
  - typically 10 - 20 dB (100x) improvement
- Improved acquisition speed
  - 0.5 - 5 seconds with low cost technology, depending on sensitivity required; faster using advanced technology
- Minimal power draw
- Tight integration with communication hardware
  - low overall costs

GPS Signal Attenuation

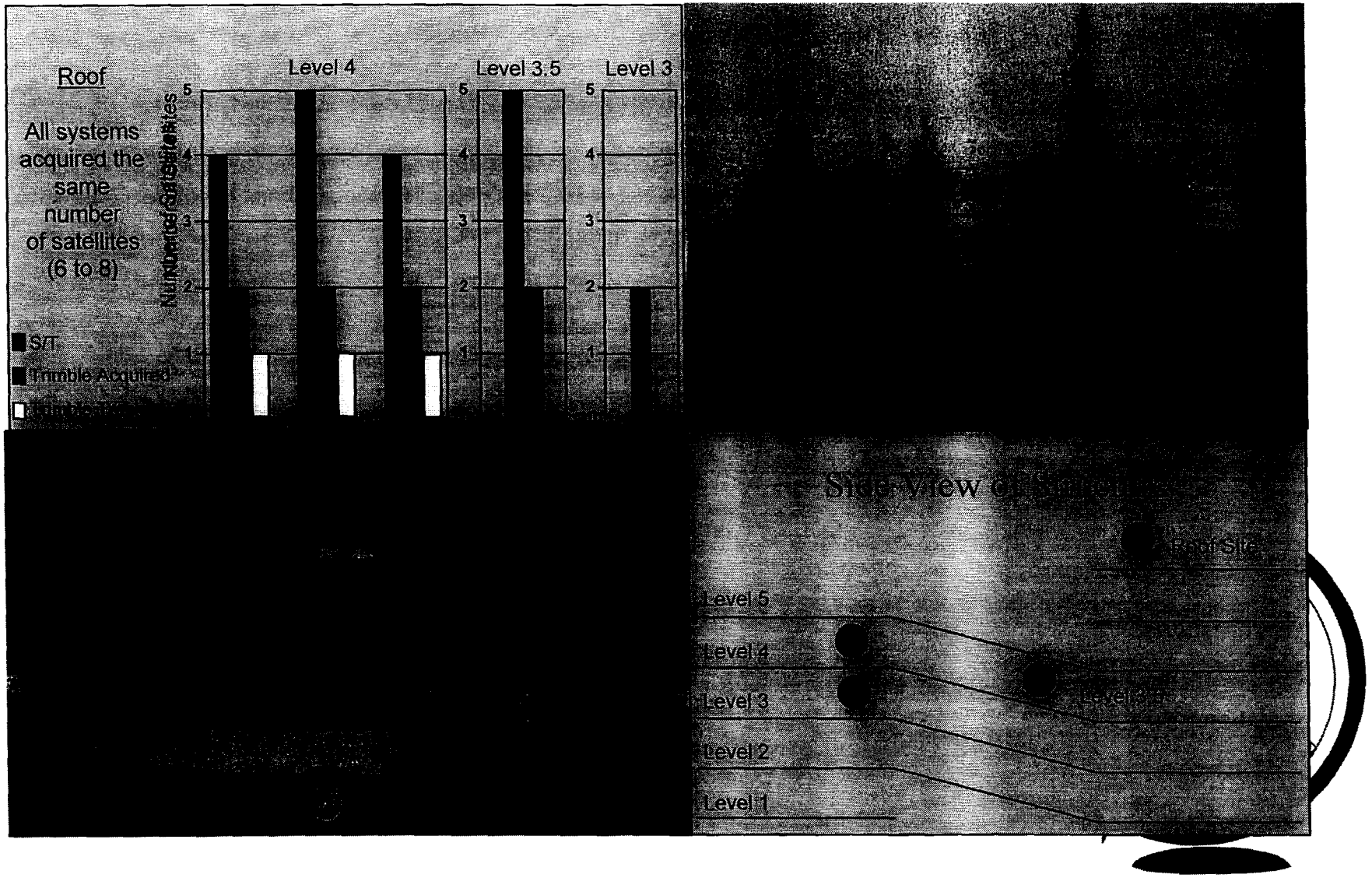
- Foliage blockage, heavily tree-lined roads*
  - < 14 dB at 30° elevation with 90% probability
  - < 6 dB at 60° elevation with 90% probability
- Urban canyons*
  - < 25 dB at 30° elevation , average over all azimuths with 90% probability
- Inside buildings*
  - 1 to 2 stories: 7.9 to 15.4 dB
  - tall buildings: unknown
- Predicted system performance should allow for loss of approximately 25 to 28 dB

* Source: IEEE



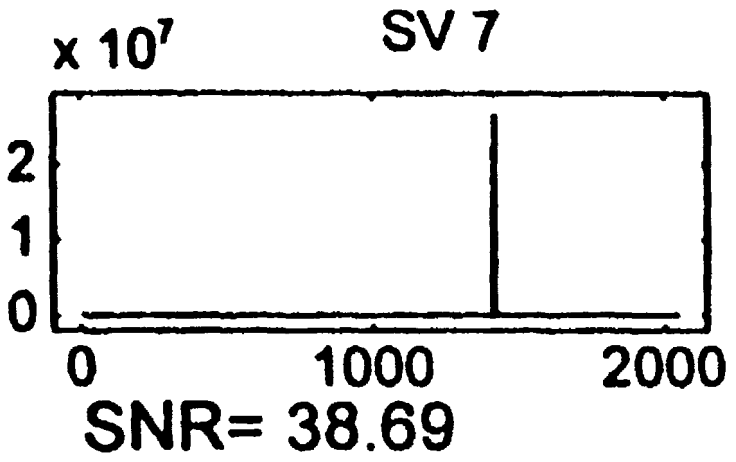
FIELD TEST RESULTS

Stanford Parking Structure Test



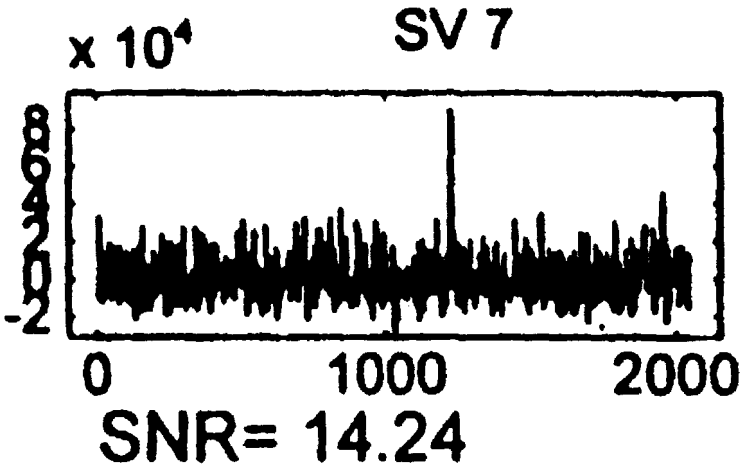
24 dB Signal Loss Processed

Roof



SNR= 38.69

Level 3



SNR= 14.24

Field Test Results - Summary

Roof: - 1 second snapshot

- 9 millisecond snapshot

Two-story building - 2nd floor, no windows

Two-story building - 1st floor, no windows

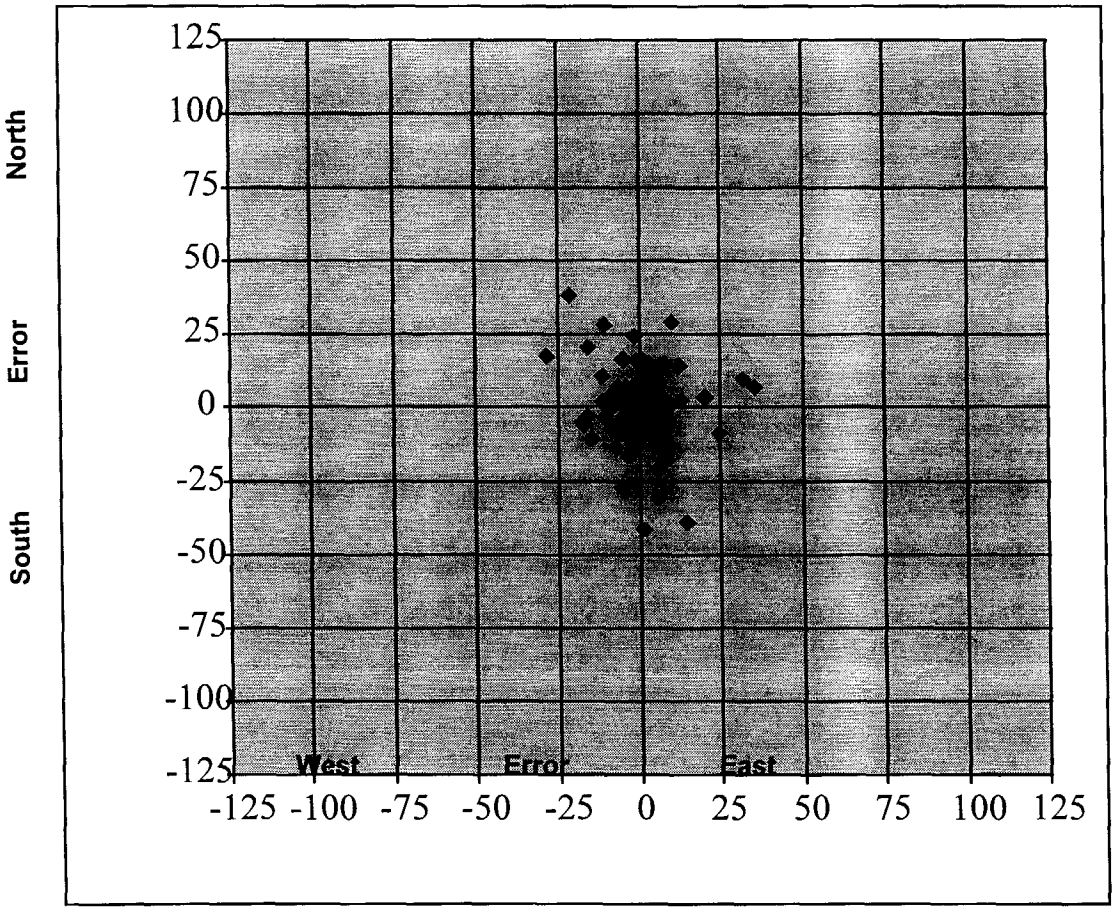
Inside San Francisco financial district hotel

Inside vehicle - stationary

Vehicle - 60 mph - external antenna

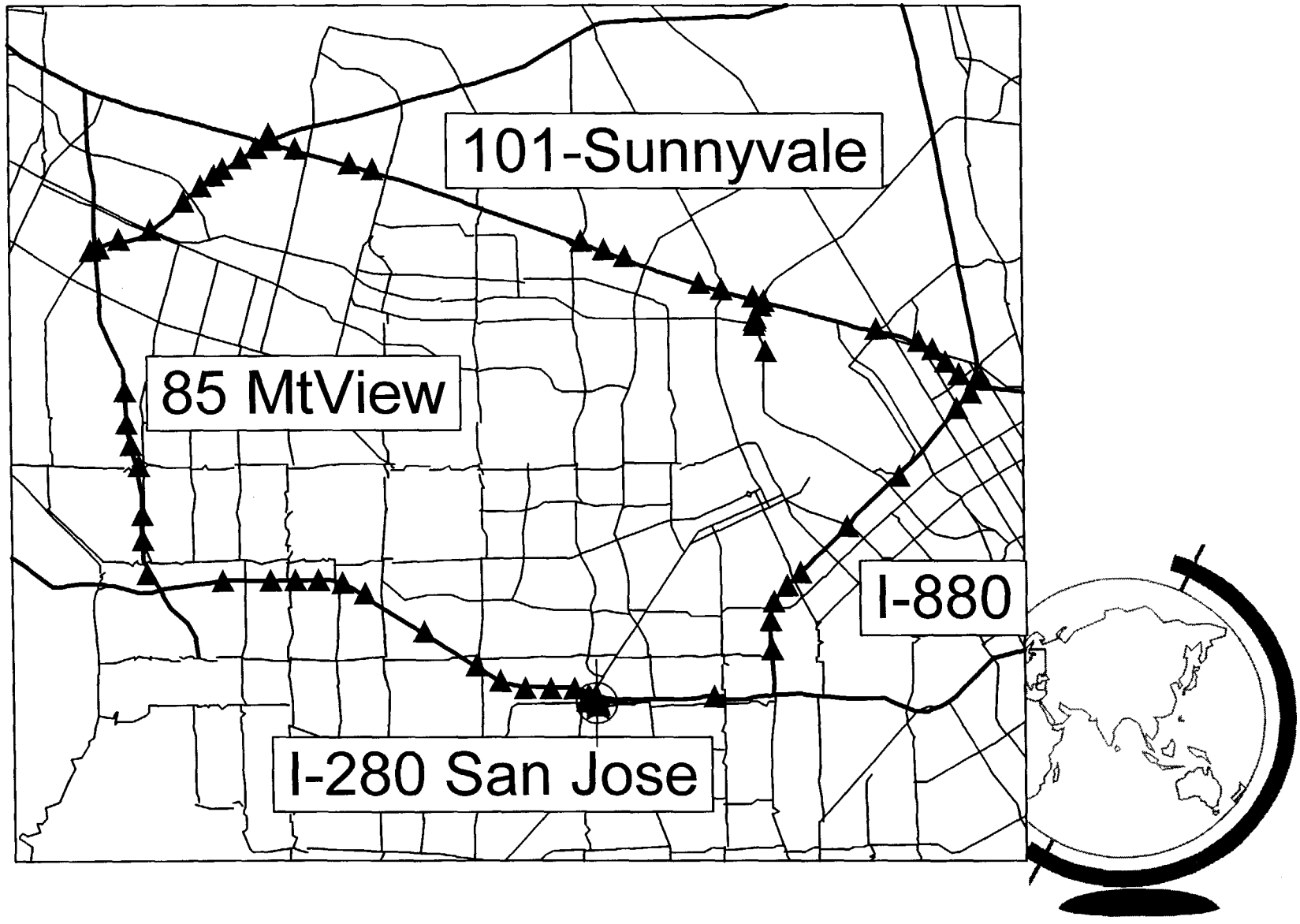
Under ½" San Francisco Bay water

Operation Inside Vehicle

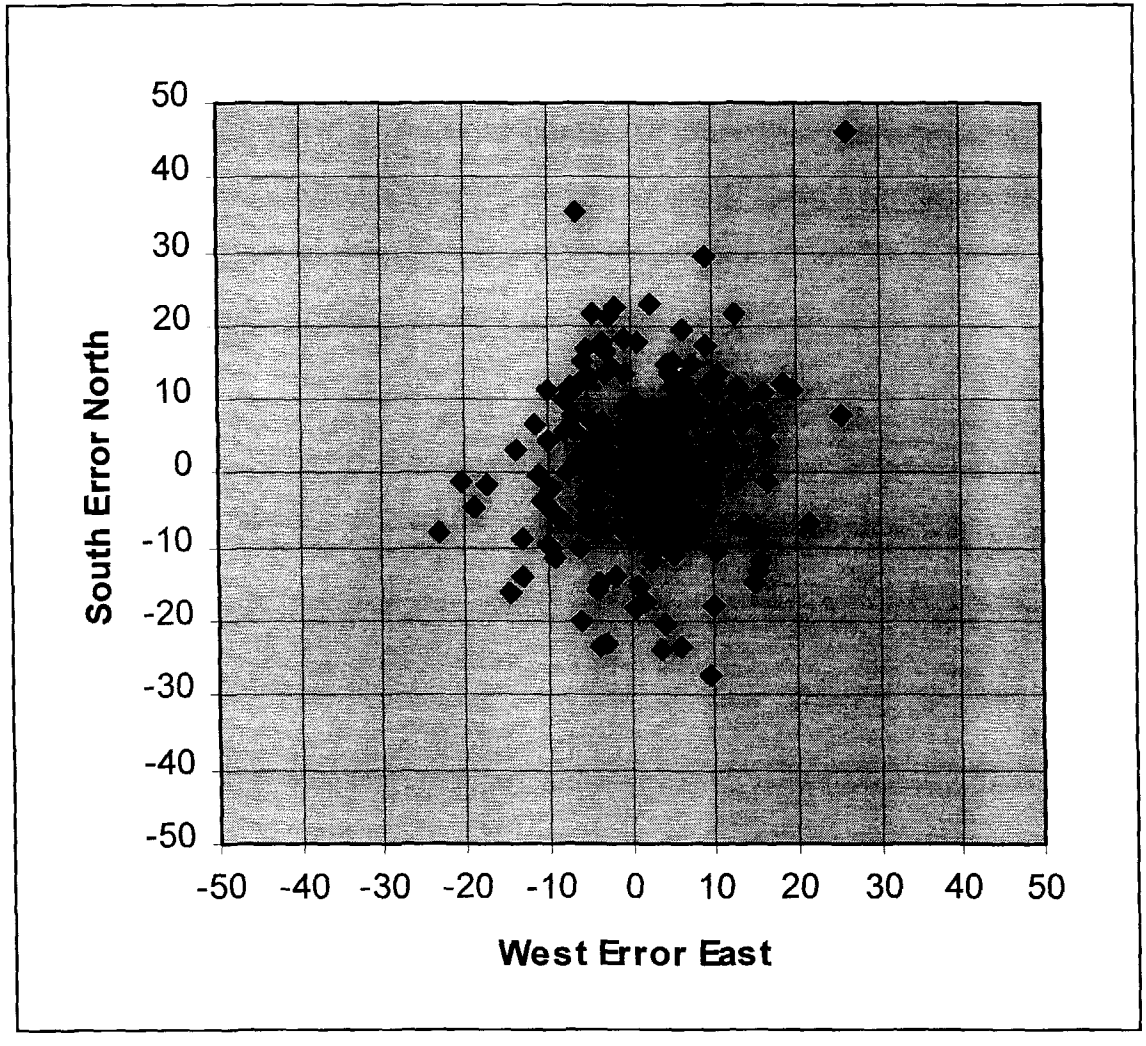


handset/GPS
at ear height

Operation in a Vehicle at 60 MPH



Inside Two-Story Building - 2nd Floor



237of 237 fixes

Technology Summary

- Low power draw
  - excellent battery conservation
- Able to be highly integrated
  - minimal additional cost, size, weight
  - device non-specific
- Rapid first fix
- High sensitivity
  - performance with blockage and multipath interference
- High precision

Issues

- Technological alternatives for Phase II E911
  - Accuracy
  - Deployment speed
  - Cost
- Phase II technological neutrality
  - Pending reconsideration petitions
  - Interpretation of 125 meter RMS standard
  - FNPRM proposals
- Competition and CMRS trends
  - Solutions vary in cost-effectiveness
  - RMS contemplates some failure rate
  - Accelerating handset turnover
- Timing of FCC decisions

Conclusion

- Phase II requirements can be met economically with technology available now
- Current industry interpretation of 94-102 is not technologically neutral
- Public will be well-served by clarifying but keeping the mandate's current accuracy requirements
- Timely FCC action will enhance public safety and provide competitive incentives